REMARKS

The rejection of Claims 1, 3-4 and 6-10 under 35 U.S.C. § 103(a) as unpatentable over, US 2004/0015012 (Hammon et al) in view of WO 2002/068378 by its English language equivalent US 2004/0116746 (Ono et al) and US 6057482 (Okada et al), are respectfully traversed.

Claim 1 is drawn to a method for supplying reaction gases in a catalytic gas-phase oxidation reaction in which at least a material to be oxidized and a gas containing molecular oxygen are mixed and the resultant mixture is supplied to a catalytic gas-phase oxidation reactor, wherein a feed rate of the material to be oxidized and a feed rate of the gas containing molecular oxygen are adjusted so that when a composition of a gas at the inlet of the catalytic gas-phase oxidation reactor is changed from a reactive composition A point [the concentration of the material to be oxidized: R(a), and the concentration of oxygen: O(a)] represented by plotting a concentration of the material to be oxidized and a concentration of oxygen in the gas at said inlet to a reactive composition B point [the concentration of the material to be oxidized: R(b), and the concentration of oxygen: O(b)] [with a proviso that the composition A point and the composition B point are compositions outside a range in which the material to be oxidized and oxygen possibly react to cause explosion (an explosion range), and $R(a) \neq R(b)$ and $O(a) \neq O(b)$], compositions on the way of the change from the composition A point to the composition B point fall outside the explosion range, wherein the material to be oxidized is isobutylene, tertiary butyl alcohol or methacrolein, wherein one of the feed rates of the material to be oxidized and the gas containing molecular oxygen is adjusted in advance by increasing it or decreasing it to the direction away from the explosion range and then the other feed rate is adjusted by increasing it or decreasing it to reach to the composition B point so that the compositions on the way of the change from the composition A point to the composition B point fall outside the explosion range.

Claim 6 is drawn to a related embodiment, which is a computer-readable medium.

Thus, the present invention is characterized by increasing or decreasing a feed rate of a gas, and then increasing or decreasing a feed rate of another gas **without shutting off a feed**.

While the Examiner finds that the previous arguments in traversal of the rejection over Hammon et al alone are moot in view of the above, new ground of rejection, they are not moot to the extent they are drawn to the shortcomings of Hammon et al *per se*. Thus, to the extent still relevant, they are repeated below.

As previously pointed out, Hammon et al discloses a process in which a feed of gas streams is automatically stopped by a computer system if the distance from the operating point to the nearest explosion limit is below a predetermined minimum value [0058]-[0062], while the present invention instead increases or decreases a feed rate of a gas, and then increases or decreases a feed rate of another gas, in order to make a detour as shown in present Fig. 1 and thereby safely avoid an explosion on increase or decrease of an operating load.

Ono et al is drawn to a method for producing a cyclic aliphatic oxime by oxidizing a cyclic aliphatic primary amine under super atmospheric pressure in the presence of molecular oxygen and a solid catalyst [0002]. The Examiner relies on the disclosure therein that it is preferred that the oxygen concentration be in a range such that the resultant gaseous phase does not have an explosive composition or that the concentration of oxygen is adjusted to be lower than the lower explosion limit [0087]. The Examiner finds that this disclosure would be interpreted as, in effect, lowering but not terminating the oxygen flow.

Okada et al discloses a process for producing benzyl acetate by oxyacetoxylation using toluene, acetic acid, and oxygen, with an oxyacetoxylation catalyst in an oxyacetoxylation reactor (column 3, lines 59-62), wherein the feed rate of oxygen should be

controlled to give the total concentration of toluene, acetic acid and benzyl acetate outside the explosion range at least at the outlet of the oxyacetoxylation reactor (column 4, lines 59-64, column 10, lines 35-41).

The Examiner relies on both Ono et al and Okada et al to find that adjusting the feed rate of oxygen is a well known method of controlling oxygen concentration to avoid an explosion range. The Examiner thus holds that it would have been obvious to adjust the feed rate of oxygen, rather than cutting off the oxygen supply, in the method of Hammon et al to avoid an explosion range while maintaining optimum oxidation-reaction conditions.

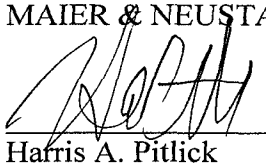
In reply, it is not questioned that one of ordinary skill in the art would clearly maintain an oxygen concentration below an explosion limit when carrying out a process susceptible to an explosion when the oxygen concentration exceeds this limit. However, the presently-claimed invention is not simply adjusting a feed rate of oxygen below an explosion limit. Indeed, neither Ono et al nor Okada et al disclose or suggest that one of the feed rates is increased or decreased in a direction away from the explosion range (step 1) and then the other feed rate is increased or decreased to reach the composition B point (step 2), as recited in present Claim 1. **Submitted herewith** are Referential Figs. 7 and 8, which are derived from originally filed Figs. 7 and 8. These figures show the specific steps in Examples 1 and 2 of the specification herein. While the present claims are not limited to these examples, nevertheless, they provide emphasis to the above argument that the presently-claimed invention is more than simply adjusting an oxygen concentration to below an explosion limit.

For all the above reasons, it is respectfully requested that the rejection be withdrawn.

All of the presently-pending claims in this application are believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.



Harris A. Pitlick
Registration No. 38,779

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)